



THE EXPERIMENT

No. 4

TODAY'S CHALLENGE – TOMORROW'S DESTINY

Aug. 31, 1999

Experiment shapes joint force U.S., allied nations build blueprints for warfighting future

By Tech. Sgt. Mark Kinkade
Air Force Print News

HURLBURT FIELD, Fla. (AFPN) – The Army, Navy and representatives from six foreign nations are on hand here during Joint Expeditionary Force eXperiment '99 to build the blueprints for how the services will operate in the 21st century.

Using the development of the expeditionary aerospace force as a backdrop, they are evaluating how command and control procedures of the future will translate to different services and different countries.

"There will not be a future contingency that does not involve other nations besides the United States," said Danish air force Lt. Col. Steen



Photos by Senior Airman Aries Early

(From left) Commandant J.P. Kellens, Royal Belgium Air Force, and Maj. Chuck Smith, Headquarters Allied Air Forces Central Europe, discuss the deployment of forces along enemy lines.

Rode-Moeller. "We are all much smaller forces today, and we depend on our allies to work with us to accom-

plish our missions."

The joint nature of the experiment is obvious as Air Force people work alongside

the different services and countries evaluating and testing new command-and-control technologies. Navy forces coordinate simulated attacks with Air Force aircraft, while Army warfighters assess command procedures providing support to forces deployed in the war game.

Warfighters from Germany, Denmark, the United Kingdom, the Netherlands, Belgium and Canada are also on hand to measure how they can merge their command-and-control structures in future wars.

As the deputy commander of the deployed air operations center, based at Hurlburt Field, Fla., for the experiment, Navy Capt. Bob Buehn has to direct the battle when

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Guard, Reserve lend expertise, experience to JEFX '99

By Staff Sgt. Lori Wise
JEFX Public Affairs

NELLIS AIR FORCE BASE, Nev. – A mixture of Reserve and Guard personnel from more than 25 units across the nation are lending their talents to the Joint Expeditionary Force eXperiment '99. So far, a total of 203 participants and support staff from more than 10 Guard and Reserve units has landed on Nevada soil. Of them, 70 people from the 133rd Air Control Squadron, Iowa Air National Guard are here to conduct air battle management and aircraft command and control. This includes more

than 100 people assigned at the 133rd ACS, located in Fort Dodge, Iowa. Back home, they work closely with the 185th Fighter Wing, Sioux City, Iowa, the 132nd Fighter Wing, Des Moines, Iowa, and the 114th Fighter Wing, Sioux Falls, S.D., and are solely responsible for the daily air control of military operating areas in three states. During their deployment to JEFX, they are leading the command and control portion of the experiment's "live-fly" at Nellis.

The 133rd ACS controllers monitor and direct air activity via ground radar sites. They guide fighter aircraft to tanker aircraft orbits for refueling mis-

sions, watch over their particular zone or area within range of their ground-based radar, and provide the same technical support to pilots that they do on a full-time, daily basis in Iowa. The 133rd people specialize in everything from air operations and weapons control to surveillance and personnel management. JEFX leaders selected the unit to participate because of their extensive experience in both real world and exercise deployments. The unit brought their own radar and associated equipment with them, which they have linked via

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News notes

In recognition

Promotion

Two JEFX members need to be recognized for their recent promotions.

Airmen David Scheeter and Rachel Kettner, both from the Combined Air Operations Center, were promoted to airmen first class recently.

Out processing JEFX

Patches

People who have not received a JEFX '99 patch may sign up to receive **one** patch when they out process their JPAC. The patches will be mailed out after Sept. 8. Please note, only 2,000 patches will be ordered and are available on a first come, first served basis.

Badge turn in

Badges must be turned in to the JPAC when outprocessing. At Hurlburt Field, experiment participants must also turn in their swipe cards to the library before leaving. Failure to return the cards could lead to administrative actions.

Home Town News Releases

Home Town News Release forms must be filled out as a part of the experiment's final out processing. The forms will be at the JPACs Sept. 3 and the information will be sent to participants' home town newspapers.

Newsletter

The eXperiment's last issue will be printed Sept. 3.

Assessment

Vital to experiment, future warfighting

By Col. Clinton Wallace
JEFX Assessment Chief

Assessment: The Key to Success.

Having said that, "assessment" is the key to success for the 1999 Joint Expeditionary Force eXperiment. It is imperative that I follow up this statement with the phrase, "Warfighters are the key to assessment."

Much has already been said about the "cultural changes" in operation requirements and system acquisition processes brought on by the concept of large-scale experimentation like JEFX '99.

I contend that the JEFX concept and its associated spiral development process represents the most sweeping changes in our Air Force way of life since we separated as a force from the Army in the late 1940s. The experiment provides an opportunity to learn new and more efficient procedures and processes that enhance our ability to respond to a myriad of taskings. The things we learn here will impact Air Force doctrine, concepts of operations, associated tactics, techniques and procedures.

Because of the magnitude of the impact of experimentation it is imperative that we develop a solid assessment process. This process is designed to facilitate discovery and accurately document the measures of performance, merit and effectiveness of the respective process and technical initiatives assessed.



Col. Clinton Wallace

Our assessment process answers three basic questions:

1. Does it work like the initiative developer/sponsor said it would?
2. Does the initiative add value to the warfighter/operator?
3. Does the initiative contribute to the overall accomplishment of our objectives/missions?

Assessment of the experiment is a tremendous task in scope and complexity. To ensure our successful accomplishment of this task, I solicited the assistance of more than 175 Command and Control and Intelligence, Surveillance, Reconnaissance subject matter experts and developed a solid assessment methodology and process. This team represents a collective of more than 2000 years of C2ISR experience and is drawn from some 30 major organizations across the Department of Defense and private industry.

We are confident that our final assessment report will strongly support development and fielding recommendations to the Chief of Staff for the Air Force and the Office of the Secretary of Defense. Our assessment methodology and process will serve as the baseline for future large-scale experiments.

Being a part of the JEFX '99 Assessment Team is an outstanding opportunity to make a lasting positive contribution to our nation's military and allied/coalition partners. We are proud to serve!

THE EXPERIMENT

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The Army's DOCC tracks and targets enemy forces to prevent them from getting in too close to allied warfighters, proving just how the DOCC puts the ...

The rock-n-roll battle in JEFX

By 1st Lt. Tom Knowles
JEFX Public Affairs

HURLBURT FIELD, Fla. — The loud rumbling of a Californian armored tank column shatters the night silence as it races across the war-torn Pacific island to reinforce the Californian Army's 11th Mechanized Division to the east. The Division anxiously awaits their arrival after having been struck hard by U.S. and Nevidian coalition forces earlier that day. Without reinforcements their battle will surely be lost. Before the tank column can reach their destination a U.S. Army Deep Operations Coordination Cell, deployed within the country of Nevidah, requests coalition airpower to destroy the tanks. Suddenly fire reigns in from the sky as an Army AH-64 attack helicopter unleashes its armor-piercing munitions on the enemy. The night becomes still but for the rumbling of smoke and fire from the carcass of tanks strewn about the landscape. The enemy has been introduced to the devastating power of the U.S. Army's DOCC.

This scenario was of course fictitious, but it could just as easily have been an actual mission carried out by one of the Army's DOCC cells supporting any global conflict that ground troops are tasked to support.

Participating in Joint Expeditionary Force eXperiment '99 is the U.S. Army's XVIII Airborne Corps DOCC, stationed out of Ft. Bragg N.C. and led by Col. Jerry Johnson, DOCC chief. The DOCC's response cell, comprised of 14 officers and 28 enlisted members, creates a powerful asset for any theater ground commander. When called upon,



Photos by Senior Airman Aries Early

(Left) Army Staff Sgt. Leonard Pilgrim and Private 1st Class Eric Banks, XVIII Airborne Corps Artillery, Deep Operations Coordination Cell, submit deep attack target nominations to the battlefield coordination cell by using the advanced field artillery tactical data system.

they provide deep battle fire support coordination for ground troops assigned to the XVIII Corps.

"We try to kill or 'attrit' second echelon enemy forces before they get to what we call the close fight," said Maj. Joseph Connell, deputy fire support coordinator.

"That's the fight where our four divisions are in close battle with the enemy. At this point we must set the conditions for the decisive fight through synchronized fire support assets and deny the enemy uncontested maneuver."

The DOCC accomplishes this by utilizing a targeting methodology known as decide, detect, track, deliver and assess. Like a game of chess, where every

move is calculated and thought through, DOCC personnel anticipate the enemy's next move on the battlefield and prevent or significantly reduce the number of personnel and combat assets from reinforcing enemy troops which the XVIII Corps is engaged with. By doing so, the DOCC greatly increases the odds of victory for members of the Corps which are engaged in battle.

The sequence begins as the DOCC decides which enemy formations will be targeted for attack. When a target has been selected they will then determine its precise geographic location. From there, the location of the target will be closely monitored and tracked. Finally they will request fire support from four primary sources: Air Force fighter/bombers, Army attack helicopters, Army artillery or lethal/non-lethal means.

"This targeting methodology allows us to shape the battlespace through the attack of enemy forces not yet engaged," said Johnson.

"By using D2TDA we are able to set the conditions for a successful fight."

The Army's participation in JEFX '99 will also contribute to the successful joint military operations of the 21st century. While the units purpose at JEFX '99 isn't to test initiatives, their participation in the experiment does contribute to the enhancement of both the Air Force and the Army's ability to explore emerging technologies and discover how effective the services are able to utilize these technologies in a joint environment. The experiences gained here will ultimately enhance and strengthen the U.S. military's ability to conduct successful joint operations well into the next millennium.

Experience (Continued from Page 1)

satellite and fiber optics to other JEFX control systems across the country. "We have the continuity and corporate knowledge the experiment planners were looking for," said Maj. Richard Breitbach, JEFX mission crew commander and 133rd ACS member. "Our people are air controllers on a full-time basis in Iowa and have worked together for many years, so we are in a position to help the active-duty folks learn and use the new systems that are constantly being upgraded."

JEFX is using people from other Guard, Reserve and Active Duty units to augment its Nellis Battle Control Center staff as well. The augmentees, with the same or related specialties as the Iowa unit, are providing extra manpower to certain positions.

"Our biggest challenge is to alter our controllers' way of thinking by redirecting their energy from exercise to experiment," explained Lt. Col. David Ott, 133rd ACS commander and Battle Control Center commander. "They are used



Photo by Staff Sgt. Paul Coupaud

(Bottom left) Tech Sgt. Randy Davis, Master Sgt. Bob Stolen, (top left) Tech. Sgt. Curt Kinsey and Capt. Darin Kallen, from the 133rd Air Control Squadron, demonstrate some of the capabilities of the weapons systems to Karen Brown, a Las Vegas reporter.

to being competitive during exercises and strive to execute procedures perfectly. But here they have to be open to experimenting with new ideas and processes that may or may not work or even fail, all in an effort to test new equipment and theory that will affect the way we use air control in the future."

"To see these young kids working with such advanced technology is amazing," added Master Sgt. Jefferi Holloway, Nellis first sergeant and Iowa ANG member. "These kids talk in terms that most people never dream of knowing. Most of this technology is brand new, but these guys and gals pick it up like it's old news."

Holloway explained that the experiment could be frustrating because things don't necessarily work the way they are supposed to. "Sometimes it takes 12 tries before they get things figured out, and certain initiatives may never work. That's what we're here to find out."

The 133rd ACS also participates in video-teleconference debriefings where they discuss if they achieved their desired learning objectives. "If there are quirks in the system that need to be fixed, or things that went well that we liked, we can implement them in the future," said Senior Airman Rikki Abrams, 133rd ACS surveillance technician.

Allies (Continued from Page 1)

the Air Force commander isn't available. The Navy, he said, brings time-tested experience in fielding an expeditionary force to the experiment.

"The air expeditionary force looks a lot like a carrier air wing," Buehn said. "We bring that experience to the table. What we get is experience in joint operations. The Navy has always operated fairly independently, but the future of warfighting is joint operations."

Like the Air Force, the Navy has people worldwide participating in the experiment. From the command-and-control vessel U.S.S. Coronado in California to aircraft flying missions from Naval Air Station Fallon in Nevada and other locations,

the Navy is wholeheartedly embracing the experimentation idea, Buehn said.

"We want to see what our baseline manning will be in future operations," he said. "This is the one place we can do that without worrying about having too little or too much. There's really no failure here."

For the Army, JEFX is a chance to be on the ground floor of warplanning for the next century. "The only way to influence policy and implement procedures is to be on the inside when people make decisions," said Lt. Col. Rick Spearman, chief of operations for the 1st Battlefield Coordination Detachment at Fort Bragg, N.C.

The Army has the smallest representation of the ser-

vices in the experiment. About 20 people are here in capacities ranging from operators to assessors and simulation builders. Although the Army operates far differently than either the Navy or Air Force, Spearman said he hasn't seen any interservice rivalry at the experiment.

"I think those days are long gone," he said. "We can't afford to have rivalries anymore. We're fielding a joint force every day."

The joint effort hasn't been without its difficulties, said Col. Bob Grosvenor, CAOC commander. Federal security regulations prohibit foreign nationals from gaining access to much of the computer systems at the experiment. As a result, many allied warfighters at Hurlburt

Field feel frustration because they can't get hands-on experience with the new technologies. "They feel a bit disappointed, I'm sure," he said. "It's not an issue of mistrust. In a war environment, they would have access. It's something we have to work on for the next experiment."

Despite the limitations, Rode-Moeller said the 15 foreign representatives are finding ways to get valuable information from the experiment. Working closely with their U.S. counterparts has been vital.

"We have had great cooperation from those working closely with us," Rode-Moeller said. "We have to rely on them, and I think they understand the situation we're in here."

JEFX initiatives split in three categories

Each one being assessed for future in experimentation, warfighting

By Capt. Geoffrey Fischer

Command and Control Training and Innovation Group Public Affairs

HURLBURT FIELD, Fla. – When someone asks, “Where is the Cat 3 display?” that person is not referring to the Joint Expeditionary Forces eXperiment mascot, but to something completely different.

“Cat 3” really stands for “Category Three” and are process or system initiatives that didn’t make it to the experiment, but are being shown for a variety of reasons.

“Category three initiatives are there to assess them as they are now and see if we can incorporate them in future JEFXs,” said Lt. Col. Gary Crolla, Command and Control Training and Innovation Group director of operations and point of contact for Category Three initiatives.

“They are there to assess their utility for the future,” Crolla said.

Some of the examples of Category Three initiatives include:

□ A space-based radar simulation at Langley Air Force Base, Va. The radar provides the ability to see and track targets in the air, on the ground and on the sea in near real time.

□ At Hurlburt Field, one initiative is the Coalition Aerial Surveillance and Reconnaissance system that gives a more complete picture of coalition ground forces through a variety of U.S. and international tracking systems.

□ And the Microglider being shown at Nellis AFB, Nev. will provide a resource that can be sent into a hostile environment and provide valuable intelligence with little chance of being discovered because of its size, less than 2 feet long travelling at 100 knots.

In addition to the end users getting a chance to see the future initiatives, the people sponsoring the initiative benefit as well.

“We see a two-fold advantage,” said Capt. Todd Kellett, Air Force Research Lab, Kirtland AFB, N.M. “It gives us the chance for the operational community to see what we are working on, and on our side of the house it’s nice to have the operational people to provide us with input. It’s a real benefit for us.”

“The end goal is to have something that the warfighter and the operator find beneficial to supporting the mission,” said Patrick Lutali, program manager for ERIM International, a Veridian company.

With an understanding of what Category Three is, the question needs to be asked, “Is there a Category Two or One? And if so, what are the differences?”

“Category Three initiatives are based a lot on potential. Category two and category one initiatives go beyond just potential, they ... are ready to support the mission.”

– Patrick Lutali
program manager for
ERIM International

go beyond just potential, they are the applications and tools which are ready to support the mission.

Category three initiatives are about three to four years from being fielded, Lutali said.



Photos by Senior Airman Aries Early

(From Left) Maj. Bob Marmelsteim, Ed Katarski and Dr. Judith Daly, assistant deputy undersecretary of defense, looks on as Joe Ross, NATO C3 Agency, explains the Coalition Aerial Surveillance and Reconnaissance System, or CEASAR.

Category two are about two to three years out, and category one initiatives are either being brought to the warfighter or are one year away.

An example of a Category One initiative is Joint Interoperability which is being supported by an Army Advanced Concept Technology Demonstration called Theater Precision Strike Operations. It is focused on the interoperability of command and control systems at the echelon above Corps/Theater level to ensure synchronized coordination of the Deep Battle, which for the Army is from the forward line of troops to the forward boundary, said Rani Hobgood, the TPSO representative to JEFX.

“The initiative is being worked hand-in-hand with the C2TIG, which is responsible for Air Force requirements to be demonstrated in the Army ACTD,” she said.

That should be enough to answer the questions about the different categories, but if anyone should ask ... there is no mascot for the experiment.

Pilots fly, fight in virtual cockpits

By 1st Lt. Tom Knowles
JEFX Public Affairs

HURLBURT FIELD, Fla. — Brig. Gen. Billy Mitchell once said, “when developing air power, one has to look ahead and not backward to figure out what’s going to happen, not what has happened.” This forward thinking philosophy is reflected in experiments like Joint Expeditionary Force eXperiment ’99 and in the nation’s next generation strike fighter, the Joint Strike Fighter, which is currently playing a major role in the experiment’s air war campaign.

There are four JSF virtual cockpits participating in JEFX ’99. Two are operating out of the Air Force’s newest simulation facility located at

Wright Patterson Air Force Base, Ohio. The remaining missions are flown from the Navy’s Manned Flight Simulation Facility, Naval Air Station Patuxent River, Md. Both sites are connected to the JEFX ’99 wide-area distributed simulation network. The network is responsible for bringing the war fighting conflict to their pilots operating in the virtual world.

During the vignette phase, virtual JSF’s flew eight sorties per day under the virtual AWACS aircraft manned by war fighters at the Air Force’s Theatre Air Command and Control Simulation Facility. Throughout the JEFX phase the JSF continues to fly eight to ten sorties per day, attacking high value targets at the direction of the Dynamic Battle Control Cell.

“JSF missions are initially generated by the JEFX operations support center where experienced operations planners are at work overseeing the execution of daily tasked sorties at the Combined Air Operations Center,”

said F.T. Case, of John Hopkins University Applied Physics Lab and technical advisor to the JSF program office. “At the CAOC, opportunities to re-task JSF’s against emerging, hi-value targets is always a possibility.”

Virtual F-15 cockpits from both the TACCSF and the Pentagon’s Theatre Battle Arena have flown pre-mission sweeps for JSF’s and targets generated by the C2TIG and the U.S. Air Force Information Warfare Center have been engaged and destroyed in this experimental joint synthetic battlespace.

“It’s mainly an air-to-ground mission for those of us flying the JSF simulators,” said Jim Wilhelm, NAS Patuxent River, Md., JSF simulator pilot. “For the purposes of

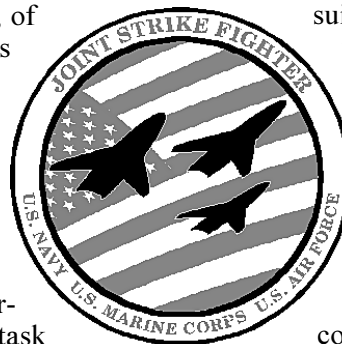
the experiment we are restricting our air strikes to mobile and stationary surface to air missile sites and various other time critical targets.”

The JSF’s survivability and lethality is supported by an advanced avionics suite and an ability to “plug into” the extensive Command, Control, Communication, Computers Intelligence, Surveillance, Reconnaissance network during the experiment, making it a primary candidate for dynamic re-tasking.

“JSF aircraft are able to receive threat alerts and targeting data directly into the cockpit from the numerous participating off-board systems regardless of whether they are live, virtual or constructive sensors” Case said. “This off-board information augments and cues the JSF’s own on-board systems to help the JSF pilot find, fix, track, target and execute it’s designated objective.”

While the JSF is not forecast to be operational until 2010 it will nonetheless play an extensive role in JEFX 2000. However, when it does come on-line it will be prepared to fly and fight within the future joint battlespace due in part to the valuable experiences gained at JEFX ’99.

Additional information about the JSF Program may be obtained at the following website: www.jast.mil.



Courtesy photo

Paul Wolter, Joint Strike Fighter simulation engineer, prepares the virtual cockpit for flight at Naval Air Station Patuxent River, Md.

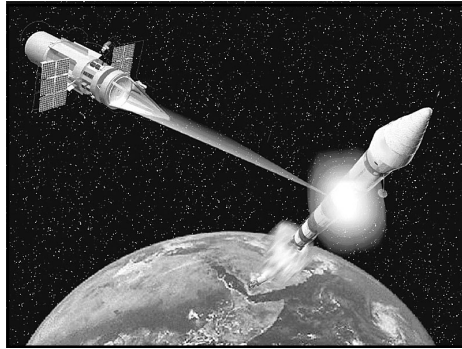
Space-Based Laser: A tool of the future

By Larry Clavette
JEFX Public Affairs

LANGLEY AIR FORCE BASE, Va. – One of the features of Joint Expeditionary Forces eXperiment '99 is displaying systems that can aid warfighters in future battles. One of those systems – the Space-Based Laser Real Time Model – demonstrates a future scenario of how conflicts may be resolved 20 years from now.

The futuristic war-fighting tools, displayed in the Innovation Showcase here, are classified as a Category Three initiative. Other initiatives identified as Category One and Two are expected to be fielded to the warfighters in less time.

The primary mission of the space-based laser is to perform national missile defense by engaging enemy ballistic missiles during their boost phase.



The Space-Based Laser Real Time Model, a futuristic war-fighting tool.

The Space-Based Laser Real Time Model simulates the capability of the SBL system sensor and communications system to perform this mission.

“The system is designed to provide battle managers with an effective asset against the long standing threat of ballistic missiles,” said Bob Grueneberg,

the designer and analyst of the Space-Based Laser Real Time Model. Grueneberg is employed by Science Application International Corp., a San Diego based defense contractor working on the project.

“The space-based laser program differs from the airborne laser program that is currently under development,” said Capt. Eric Kolb, a systems engineer from the Air Force’s Space and Missile Center at Los Angeles Air Force Base, Calif. “While the space-based laser program intends to place laser weapons on a number of satellites in a constellation for full-time global reach, the airborne laser program employs aircraft to provide more localized coverage within a theater,” he said.

“The space-based laser program is

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AWACS – *Electronic sentinels in the sky*

By Maj. Jamie Robertson
JEFX Public Affairs

NELLIS AIR FORCE BASE, Nev. – In a world of acronyms, one of the few that are universally understood by militaries throughout the world is “AWACS” – the Airborne Warning and Control System. The unmistakable 30 foot radar dome mounted on either a Boeing 707 or Airbus 320 airframe gives the aircraft a unique profile which makes the E-3 Sentry recognizable the world over. The E-3 is a potent electronic sentinel, which brings tremendous all-weather surveillance and command, control and communications capability to any operational theater. Tried, tested and proven in a variety of conflicts and coalition operations in the past 22 years – including Desert Storm, Northern and Southern Watch and recent Kosovo operations, the E-3 continues as the premier air battle command and control aircraft in the world today.

The AWACS also continues to provide air surveillance support to NORAD (North American Aerospace Defense)

and assistance to law enforcement agencies with conducting counter drug operations along the borders of the United States. Two E-3s from the 964th Airborne Air Control Squadron based at Tinker Air Force Base, Okla., are participating in Joint Expeditionary Force eXperiment '99 at Nellis AFB.

In addition, a test E-3 from Boeing is also present. The goal for the E-3 participation, said Canadian Forces Maj. Art Henry, a mission crew commander with the 964th AACS, is to learn how to integrate data link information with the Battle Control Center.

The BCC in itself is an experiment of the Air Control Squadron modernization roadmap which requires fewer personnel and less equipment. The BCC functions of data link management, weapons control, combat identification, theater missile defense and time-critical-targeting are performed at standard computer workstations. The BCC draws data from the AWACS and other information systems, which in turn is forwarded to the Combined Air Operations Center. What separates the JEFX from

normal AWACS operations is the ability to exchange real time data from sensor to decision maker to shooter. This capability will allow airborne assets to re-target while in flight to prosecute air, ground and mobile ground threats as they are detected.

The AWACS fleet is currently being upgraded with a number of enhancements including the Electronic Support Measures, which permits the E-3 to passively detect and identify electrical emissions from air and surface-based emitters, such as hard-to-detect mobile Surface-to-Air Missile sites.

“The cop with a radar detector perhaps overly simplifies the E-3’s Electronic Support Measures capability,” said Maj. Henry, “but combined with the E-3’s powerful radar capability and IFF (Identification Friend or Foe), it gives us a complete air picture.”

During JEFX '99, the E-3s will feed and exchange real time data with the Battle Control Center, giving decision-makers far greater flexibility in the use of air assets to prosecute an air campaign.

JEFX inspects new B-1B Datalink

BLOS technology increases flight crews situational awareness

By Capt. James Law
366th Wing Public Affairs

MOUNTAIN HOME AIR FORCE BASE, Idaho – Miles from enemy territory, B-1B Lancers from Mountain Home AFB fly at 25,000 feet, 500 miles per hour on their way to war, the crews receiving up-to-date threat and target information from U.S. surveillance assets. Crewmembers then replan the mission en route using the newest Beyond Line of Sight cockpit technology.

This technology was first tested in Expeditionary Force eXperiment '98 and was a catalyst for technology used in Operation Allied Force, when four B-1 and four B-52 aircraft that flew sorties from England to Kosovo were modified with the equipment.

BLOS gives crews unprecedented situational awareness through improved command and control. However, as the B-1's approach the fight, BLOS takes a

back seat to Link 16 which is a direct system that does not bounce off satellites, making the information real-time and allowing the United States to outsmart and out-fly the enemy.

The Link 16 initiative was tested Sunday, Aug. 29 during JEFX '99.

"With a secure datalink, B-1's can get an accurate picture of the battlefield while still en route," said Maj Marc Jamison, 366th Wing JEFX project officer.

"(En route) EOC personnel get real-time data, battlefield assessments and target information from the Combined Air Operations Center, then review or update the information and relay it to the B-1 crews."

– Maj. Marc Jamison
366th Wing JEFX project officer

since initial planning took place and the jets took off."

Once the B-1's enter the airspace over the targets, crews utilize their Link 16 capability to hook up with AWACS E-3, JSTARS E-8, and Rivet Joint RC-135 crews plus connect to an air control squadron. The B-1's then rendezvous with other forward deployed aircraft to attack the enemy.

When an air expeditionary force re-

ceives its "GO" order, the commander and mission planners deploy first in a Boeing-modified KC-135R tanker which is loaded with the en route Expeditionary Operations Center pallet. The pallet has communications equipment to send imagery and revised mission plans directly to B-1 crews.

After the en route EOC aircraft departs, bombers, fighters and other tankers launch.

According to Jamison, the bombers may have departed without full knowledge of the final targets and threats. The en route EOC aircraft flies ahead of the B-1s and provides updated information through the datalink.

"(En route) EOC personnel get real-time data, battlefield assessments and target information from the Combined Air Operations Center, then review or update the information and relay it to the B-1 crews," Jamison said.

On Sunday, Aug. 29 the B-1's launched from Mountain Home AFB and were retasked in just that way during JEFX. Via satellite, the BLOS system was used to provide images and situational awareness of enemy threats. Once in range, the B-1's entered the Link 16 network for direct data links and information updates, then hit their targets.

Lasers (Continued from Page 7)

important to the country's national missile defense because of the number of foreign countries that are taking steps to make intercontinental ballistic missiles," Kolbsaid.

"The days when the Soviets were our only ICBM threat are gone. Today we must prepare for threats from a range of other adversaries," he said.

This isn't the first time the Space-Based Laser Real Time Model has been dis-

played. "We've taken the model to a couple of exercises, but this is the first time it's been at an experiment," Grueneberg said. "The experiment allows us to work with weapon operators to better understand system requirements at an operational level."

In addition to managing the Space-Base Laser Real Time Model portion of the space laser project, the space and missile systems center is working with other contrac-

tors to schedule a laser test flight in 2012. This is known as the Integrated Flight Experiment. "A Joint Venture Team consisting of three defense contractors is in the planning stages of developing the laser that will lead to a fully operational SBL system," Kolb said.

As with other long-term defense programs, the future of the space-based laser rests with the availability of funding and national priorities. "The Ballistic Missile De-

fense Organization and Congress organize the road map for the future of this country's missile defense program," Kolb said. "Budgetary constraints will determine whether the program will be ready in 2020."

Participants and visitors are invited to this year's JEFX '99 Innovation Showcase to take a look at this futuristic tool commanders may use someday to protect the United States from future missile attacks.